

Bone Tumors

Surgery Service



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Specialistssm**

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We Can Help

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- Internal Medicine
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- Oncology
- Oncologic Surgery
- Ophthalmology
- Orthopedic Surgery
- Radiology & Fluoroscopy
- Soft Tissue Surgery
- Ultrasound

Locations

Auburn Hills

3412 E. Walton Blvd.
(West of Squirrel Rd.)
(248) 371-3713

Grand Rapids

1425 Michigan St. NE
(East of Fuller Rd.)
(616) 284-5300

MVS Southfield

29080 Inkster Rd.
(North of 12 Mile Rd.)
(248) 354-6660

Bone cancer

There are two types of bone cancer: primary and secondary. Primary bone cancer originates in the bone itself. Secondary bone cancer begins in another organ or part of the body and spreads (metastasizes) into the bone. Osteosarcoma is the most common type of primary bone tumor and commonly spreads to other parts of the body.

Signs and diagnosis

Dogs most commonly afflicted by primary bone tumors are large and giant breeds including Greyhounds, Rottweilers, Dobermans, Newfoundlands and Saint Bernards. This type of cancer less commonly affects small breed dogs and cats. Most patients are older than seven years and males have a higher incidence of bone cancer than females. Clinical signs of bone cancer may include lameness, a firm painful swelling on the affected bone that may develop suddenly or gradually, fracturing of a bone without significant trauma, weight loss, loss of appetite and lethargy.

As a first step in the diagnosis of bone cancer, x-rays of the affected area are needed. The cancerous bone may be lytic (dissolved away) and have calcium deposits on the surface of the bone. Chest x-rays are used to identify visible spread of the cancer; however, microscopic spread of tumor cannot be detected with x-rays. A comprehensive blood profile including a complete blood count, chemistry profile, and urine testing is used to check internal organ function and to ensure that a safe anesthetic protocol can be selected for your pet. A cardiac (heart) ultrasound may be performed prior to chemotherapy, as certain kinds of chemotherapy drugs cannot be used in animals with heart problems. Biopsies may be collected from the abnormal bone, under anesthesia, in the form of fine needle aspiration or core biopsy to help establish a preliminary diagnosis. These samples of bone are sent to a diagnostic laboratory for interpretation. A bone scan may be recommended to look for visible spread of the bone cancer to other bones. This test is not readily available, but we can make arrangements to have this procedure performed. If your companion has a history of clinical arthritis, x-rays may be taken of the affected areas.



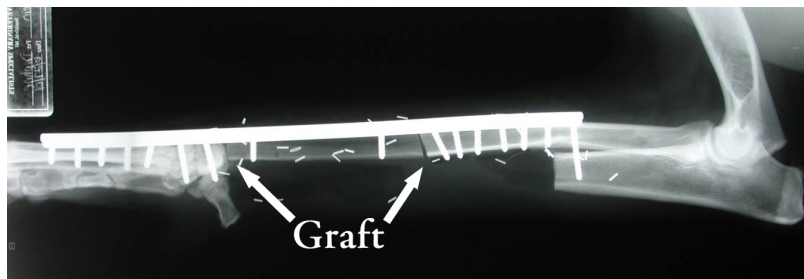
The day of surgery

Our anesthesia and surgical team will prescribe a pain management program, both during and after surgery that will keep your companion comfortable. This may include a combination of general anesthesia, epidural analgesics, nerve block catheter, oral analgesics, and anti-inflammatory medication.

Treatment

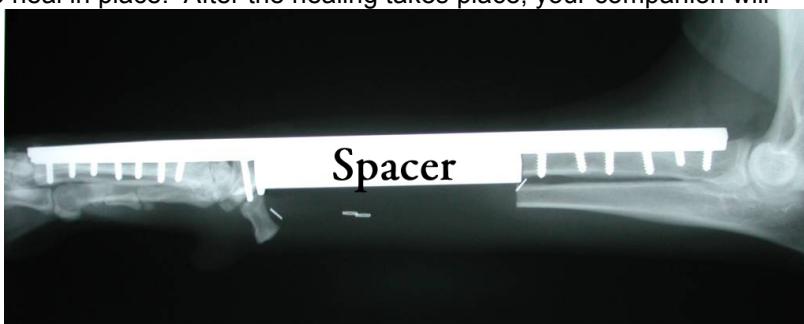
Bone Tumors Continued...

Bone cancer is an extremely painful disease. Amputation of the affected limb may be recommended to alleviate pain. The affected limb is surgically removed either at the shoulder blade (for a front limb) or at the hip (for a back limb). One research study found that almost all owners were satisfied with their pet's quality of life following amputation.



If the tumor is in the radius bone (forelimb bone above wrist joint) a limb sparing procedure can be performed. In this procedure, the part of the bone with the tumor is removed and replaced with a living bone graft from the dog's limb. The graft takes about two to three months to heal in place. After the healing takes place, your companion will be able to use the limb well. Alternatively, a bone graft from a cadaver can be used, but the incidence of infection increases to about 50%.

Another technique to salvage the limb is to use a metal spacer to replace the removed bone; the metal spacer is fastened to the bone with a very long, strong plate and screws. This technique is used if the tumor in the radius is large. The risk of infection with this device is also about 50%.



Other treatment options

If amputation or limb sparing surgery is not an option, palliative radiation therapy may be recommended. This therapy, which includes four to six treatments with radiation, does not kill the cancer, but can make the tumor site less painful for a period of two to six months. The most conservative treatment option is administration of analgesics (pain relievers) and a medication that inhibits calcium resorption from the tumor site. A positive response may be seen for a period of a few weeks to a few months. Sometimes this treatment option is ineffective. Chemotherapy is commonly recommended if surgery is performed. Treatments are administered every third week for a total of five treatments. Unlike humans, most dogs do not lose their hair and usually have only mild side effects, which may include transient loss of appetite and vomiting.

Aftercare and results

After surgery, you can continue to give your pet a prescribed pain reliever to minimize discomfort. It's also important to limit your dog's activity and exercise level during this post-operative period. Most dogs that have a limb amputated will begin walking unassisted within a few days after surgery. Dogs that have a limb sparing procedure usually will use the limb within one week after surgery and the bone is typically healed within 3 months.

Depending on the type of bone tumor, some patients may be cured of their cancer with surgery. The median survival time for osteosarcoma patients that have surgery (limb sparing or amputation) and chemotherapy is about 1 year.

Assessment and recommendations



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Bone Tumors Continued...

Patient: _____

Date: _____

Treatment recommended

- Amputation
- Limb sparing surgery
- Palliative radiation – please make an appointment with one of our oncologists
- Medical therapy – please make an appointment with one of our oncologists

The following has been prescribed

- No medications or special diet are necessary at this time
- Tramadol: _____
- Nonsteroidal anti-inflammatory medication: _____
- Other medication: _____

Exercise

- Unlimited
- Confine your pet to the house other than very short leash walks necessary for bowel movements and urination
- Restrict exercise to leash walks 10 minutes twice daily

Preparation for surgery

- Start fasting your companion at midnight before the surgery; water should not be withheld
- Pepcid AC 10 mg tablets: give _____ tablets with water (use a syringe if needed) at 6 AM on the morning of surgery

*Composed by Daniel A. Degner, DVM, DACVS
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